

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-20 (Canceled).

Claim 21 (Currently Amended): An Ig ~~antigen-binding~~ fusion protein comprising (1) an antibody and (2) a peptide consisting of SEQ ID NO: 1 having homophilic activity,

wherein the peptide ~~antibody~~ is specific for cellular receptor and ~~the peptide is derived from human C3d region 1217-1232 binding to CR2 receptor on B cells; a specific binding site derived from a natural ligand for a specific cellular receptor;~~

wherein the antibody is a murine anti-idiotypic antibody 3H1 and the peptide is a complement fragment C3d; and

wherein the peptide does not interfere with antigen binding.

Claim 22 (Currently Amended): The Ig ~~antigen-binding~~ fusion protein of Claim 21 wherein the antibody comprises a light chain and ~~or~~ a heavy chain immunoglobulin molecule and wherein the peptide is fused ~~attached~~ to the C-terminal or the N-terminal end of said light chain or heavy chain immunoglobulin molecule.

Claim 23 (Currently Amended): An Ig ~~antigen-binding~~ fusion protein comprising (1) an antibody and (2) a peptide consisting of SEQ ID NO: 1 having homophilic activity; wherein the peptide ~~antibody~~ is specific for cellular receptor and ~~the peptide is derived from human C3d region 1217-1232 binding to CR2 receptor on B cells; a specific binding site derived from a natural ligand for a specific cellular receptor;~~ wherein the antibody is a murine anti-idiotypic antibody 3H1 and the peptide is a complement fragment C3d; wherein said peptide does not interfere with

antigen binding; and wherein the fusion protein is created by a process comprising the steps of:

creating a vector ~~nucleic acid fusion product~~ comprising a nucleic acid sequence encoding said an anti-idiotypic antibody 3H1 and a nucleic acid sequence encoding said peptide, such that the nucleic acid sequence encoding the peptide is located inside ~~internally to~~ the nucleic acid sequence encoding the antibody, and such that the peptide is connected to the antibody at a site that does not interfere with antigen binding, and

expressing the nucleic acid fusion product to create the fusion protein.

Claim 24 (Currently Amended): The Ig ~~antigen-binding~~ fusion protein of claim 21, wherein said antibody is an antibody that mimics carcinoembryonic antigen ~~specific for a cellular receptor on a normal cell or on a tumor cell.~~

Claim 25 (Currently Amended): The Ig ~~antigen-binding~~ fusion protein of claim 21, wherein said antibody is a full-length immunoglobulin molecule or an antigen binding fragment thereof ~~a variable domain containing fragment of an antibody.~~

Claim 26 (Currently Amended): The Ig ~~antigen-binding~~ fusion protein of Claim 21 wherein said peptide has inverse hydropathicity within the length of said peptide.

Claim 27 (Currently Amended): The Ig ~~antigen-binding~~ fusion protein of Claim 21, wherein said antibody comprises a light chain and ~~or a~~ heavy chain immunoglobulin molecule and wherein said peptide is localized internally to said light chain or heavy chain immunoglobulin molecule.

Claim 28 (Currently Amended): An Ig ~~antigen-binding~~ fusion protein comprising (1) an antibody and (2) a peptide consisting of SEQ ID NO: 1 having immuno-stimulatory activity; wherein the peptide ~~antibody~~ is specific for cellular receptor and ~~the peptide is~~ a specific binding site derived from a natural ligand for a

specific cellular receptor; wherein the antibody is a murine anti-idiotypic antibody 3H1 and the peptide is a complement fragment C3d; wherein said peptide does not interfere with antigen binding; and wherein said antibody comprises a light chain and ~~or a~~ heavy chain immunoglobulin molecule and wherein said peptide is attached to the C-terminal or the N-terminal of said light chain or heavy chain immunoglobulin molecule.

Claim 29 (Canceled).

Claim 30 (Currently Amended): The ~~Ig~~ antigen-binding fusion protein of Claim 28, wherein said antibody comprises a light chain and ~~or a~~ heavy chain immunoglobulin molecule and wherein said peptide is localized internally to said light chain or heavy chain immunoglobulin molecule.

Claim 31 (Currently Amended): The ~~Ig~~ antigen-binding fusion protein of claim 28, wherein said antibody is an antibody that mimics carcinoembryonic antigen specific for a cellular receptor on a normal cell or on a tumor cell.

Claim 32 (Currently Amended): An ~~Ig~~ antigen-binding fusion protein comprising (1) an antibody and (2) a peptide consisting of SEQ ID NO: 1 having membrane transport activity; wherein the peptide antibody is specific for cellular receptor and ~~the peptide is derived from human C3d region 1217-1232 binding to CR2 receptor on B cells; a specific binding site derived from a natural ligand for a specific cellular receptor;~~ wherein the antibody is a murine anti-idiotypic antibody 3H1 and the peptide is a complement fragment C3d; and wherein said peptide does not interfere with antigen binding.

Claim 33 (Currently Amended): The ~~Ig~~ antigen-binding fusion protein of Claim 32, wherein said antibody comprises a light chain and ~~or a~~ heavy chain immunoglobulin molecule and wherein said peptide is attached to the C-terminal or the N-terminal of said light chain or heavy chain immunoglobulin molecule.

Claim 34 (Currently Amended): The ~~Ig antigen-binding~~ fusion protein of Claim 32, wherein said antibody comprises a light chain and ~~or~~ a heavy chain immunoglobulin molecule and wherein said peptide is localized internally to said light chain or heavy molecule.

Claim 35 (Currently Amended): The ~~Ig antigen-binding~~ fusion protein of claim 32, wherein said antibody is an antibody that mimics carcinoembryonic antigen ~~specific for a cellular receptor on a normal cell or on a tumor cell.~~

Claim 36 (Canceled).

Claim 37 (Currently Amended): The ~~Ig antigen-binding~~ fusion protein of Claim 22, wherein said peptide is a 16mer peptide derived from a human ~~or non-human~~ C3d region homologous to the human C3d residues at position 1217-1232.

Claim 38 (Currently Amended): The ~~Ig antigen-binding~~ fusion protein of Claim 29, wherein said peptide is a 16mer peptide derived from a human ~~or non-human~~ C3d region homologous to the human C3d residues at position 1217-1232.

Claim 39 (Canceled).

Claim 40 (Currently Amended): The ~~Ig antigen-binding~~ fusion protein of Claim 33, wherein said peptide is a 16mer peptide derived from a human ~~or non-human~~ C3d region homologous to the human C3d residues at position 1217-1232.